



Our Reference: VWS-556-A

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Karl-Heinz Kuebler
Serial Number: 10/608,508
Filing Date: June 27, 2003
Examiner/Art Group Unit: Unknown/Unknown
Title: FLUID HEATER WITH LOW
POROSITY THERMAL MASS

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Applicant(s) hereby cite the references listed on the attached form PTO-1449 as relating to the subject matter of the invention described and claimed in the above-identified application.

Reference U.S. Patent Number 4,508,957 discloses an electric heating device for vehicle glass washing fluid. The heating device disclosed in this patent includes a pair of poor heat conducting, plate-like body elements, each having a spiral channel formed therein. The spiral channels are connected in series at one end and the opposite ends are connected to the washing fluid reservoir and two spray nozzles. Each channel is closed by a thin plate made of material having a high heat transmission coefficient. The cover plates are juxtaposed. An electric heating element in the form of a PTC thermistor is sandwiched between the cover plates in contact with the cover plates. In operation, heat generated by the power thermistor is radiated through the thin, highly thermally conductive cover plates into the fluid in the channels of each body element.

The fluid heating device disclosed in U.S. Patent Number 4,508,957 acts as a heat exchanger in that heat generated by the heating element is transmitted

immediately through the highly heat transmissive, thin wall, cover plates to the fluid in the channels.

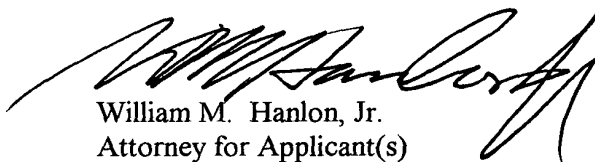
This differs from the invention described and claimed in the subject application in which a thermally conductive mass is heated by one or more heating elements coupled to the mass. The mass acts as a buffer in that the heat from the heating elements absorbed by the mass is then released in a controlled manner to the fluid in the fluid flow channels in the mass to heat the fluid. In this cited reference, all heat transmission to the fluid is through the ends of the channels and not through the poor heat conducting body elements to the fluid, as is the case in the subject application.

These references constitute all the information of which the individuals pursuant to 37 C.F.R. § 1.56(c) are currently aware.

Unless otherwise noted herein, a copy of each cited reference is enclosed.

Respectfully submitted,

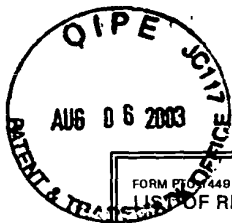
YOUNG, BASILE, HANLON, MacFARLANE, WOOD
& HELMHOLDT, P.C.

A handwritten signature in black ink, appearing to read 'W. M. Hanlon, Jr.', is positioned above the printed name and contact information.

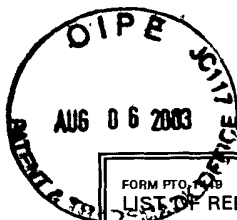
William M. Hanlon, Jr.
Attorney for Applicant(s)
Registration No. 28422
(248) 649-3333

3001 West Big Beaver Rd., Suite 624
Troy, Michigan 48084-3107

Dated: August 4, 2003
WMH/jao



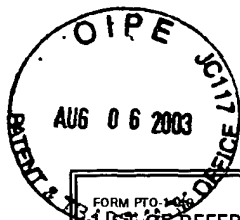
FORM PTO 449 LIST OF REFERENCES CITED BY APPLICANT				ATTY. DOCKET NO. VWS-556-A		SERIAL NO. 10/608,508	
APPLICANT Karl-Heinz Kuebler							
FILING DATE June 27, 2003						GROUP Unknown	
U. S. PATENT DOCUMENT							
EXAMINER INITIALS		PATENT NO.	ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE
	AA	US 6,199,587	Mar 2001	Shlomi	137	625.5	
	AB	US 6,164,564	Dec 2000	Franco	239	284.1	
	AC	US 5,676,868	Oct 1997	Simmons	219	202	
	AD	US 6,271,506	Aug 2001	Glaser	219	505	
	AE	US 6,260,608	Jul 2001	Kim	165	41	
	AF	US 6,257,500	Jul 2001	Petzold	239	284.1	
	AG	US 6,247,653	Jun 2001	Seyfarth	239	284.1	
	AH	US 6,148,258	Nov 2000	Boisvert	701	99	
	AI	US 6,133,546	Oct 2000	Bains	219	202	
	AJ	US 6,119,300	Sep 2000	Schmid	15	250.04	
	AK	US 6,029,908	Feb 2000	Petzold	239	284.1	
	AL	US 6,009,369	Dec 1999	Boisvert	701	99	
	AM	US 5,988,529	Nov 1999	Suhring	239	284.1	
	AN	US 5,979,796	Nov 1999	Ponziani	239	284.1	
	AO	US 5,957,384	Sep 1999	Lansinger	239	284.1	
	AP	US 5,947,348	Sep 1999	Briski	222	640	
	AQ	US 5,881,428	Mar 1999	Simmons	15	250.04	
	AR	US 5,784,751	Jul 1998	Tippets	15	250.04	
	AS	US 5,727,769	Mar 1998	Suzuki	251	129.15	
	AT	US 5,673,360	Sep 1997	Scripps	392	405	
	AU	US 5,636,407	Jun 1997	Len	15	250.19	
	AV	US 5,509,606	Apr 1996	Breithayst	239	130	
	AW	US 5,433,382	Jul 1995	Baumgarten	239	284.1	
	AX	US 5,428,206	Jun 1995	Uchida	219	505	
	AY	US 5,383,247	Jan 1995	Nickel	15	250.04	
	AZ	US 5,369,247	Nov 1994	Doljack	219	485	
EXAMINER				DATE CONSIDERED			
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not considered. Include a copy of this form with next communication to applicant.							



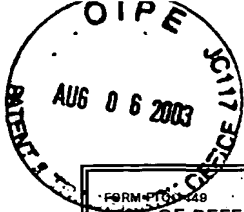
FORM PTO 159 LIST OF REFERENCES CITED BY APPLICANT				ATTY. DOCKET NO. VWS-556-A		SERIAL NO. 10/608,508	
APPLICANT Karl-Heinz Kuebler							
FILING DATE June 27, 2003						GROUP Unknown	
U. S. PATENT DOCUMENT							
EXAMINER INITIALS	PATENT NO.	ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE	
	BA	US 5,354,965	Oct 1994	Lee	219	202	
	BB	US 5,345,968	Sep 1994	Day	137	625.46	
	BC	US 5,351,934	Oct 1994	Jensen	251	65	
	BD	US 5,318,071	Jun 1994	Giaardo	137	625.65	
	BE	US 5,289,698	Mar 1994	Garimella	62	498	
	BF	US 5,280,806	Jan 1994	Glazebrook	137	517	
	BG	US 5,203,049	Apr 1993	Nogawa	15	250.02	
	BH	US 5,254,083	Oct 1993	Gentelia	604	35	
	BI	US 5,249, 623	Oct 1993	Miller	165	156	
	BJ	US 5,183,099	Feb 1993	Bechu	165	41	
	BK	US 5,168,595	Dec 1992	Naylor, Jr.	15	250.40	
	BL	US 5,118,040	Jun 1992	Abe	239	284.1	
	BM	US 5,074,471	Dec 1991	Baumgarten	239	284.1	
	BN	US 5,012,977	May 1991	Karklins	239	284.1	
	BO	US 4,975,630	Dec 1990	Ma	323	300	
	BP	US 4,905,904	Mar 1990	Ohara	239	284.1	
	BQ	US 4,894,520	Jan 1990	Moran	219	497	
	BR	US 4,877,186	Oct 1989	Scholl	239	75	
	BS	US 4,858,576	Aug 1989	Jeffries	123	145	
	BT	US 4,832,262	May 1989	Robertson	239	129	
	BU	US 4,690,371	Sep 1987	Bosley	251	65	
	BV	US 4,689,548	Aug 1987	Mechlemburg	323	243	
	BW	US 4,669,430	Jun 1987	Reinhold	123	179	
	BX	US 4,589,374	May 1986	Farina	122	14	
	BY	US 4,574,841	Mar 1986	Hugler	137	625.44	
	BZ	US 4,561,632	Dec 1985	Hugler	251	129.15	
EXAMINER				DATE CONSIDERED			
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not considered. Include a copy of this form with next communication to applicant.							



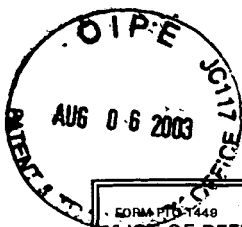
FORM PTO-1449 LIST OF REFERENCES CITED BY APPLICANT				ATTY. DOCKET NO. VWS-556-A		SERIAL NO. 10/608,508	
				APPLICANT Karl-Heinz Kuebler			
				FILING DATE June 27, 2003		GROUP Unknown	
U. S. PATENT DOCUMENT							
EXAMINER INITIALS	CA	PATENT NO.	ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE
	CA	US 4,534,539	Aug 1985	Dettmann	251	65	
	CB	US 4,524,797	Jun 1985	Lungu	137	343	
	CC	US 4,508,957	Apr 1985	Rocchitelli	219	305	
	CD	US 4,489,863	Dec 1984	Horehos	222	504	
	CE	US 4,403,756	Sep 1983	Berlin	244	223	
	CF	US 4,306,589	Dec 1981	Harned	137	625.65	
	CG	US 4,295,769	Oct 1981	Douthett	411	411	
	CH	US 4,295,111	Oct 1981	Frosch	335	256	
	CI	US 4,253,493	Mar 1981	English	137	625.18	
	CJ	US 4,248,383	Feb 1981	Savage	239	284	
	CK	US 4,159,026	Jun 1979	Williamson	137	625.5	
	CL	US 4,106,508	Aug 1978	Berlin	128	346	
	CM	US 4,090,668	May 1978	Kochensur	239	130	
	CN	US 3,979,068	Sep 1976	Applebaum	239	284 R	
	CO	US 3,977,436	Aug 1976	Larmor	137	625.65	
	CP	US 3,891,827	Jun 1975	Wyse	219	302	
	CQ	US 3,888,412	Jun 1975	Lundo	237	12.3 B	
	CR	US 3,785,359	Jan 1974	Whittaker	126	19.5	
	CS	US 3,756,510	Sep 1973	Nitterl	239	129	
	CT	US 3,716,886	Feb 1973	Klomp	15	250.04	
	CU	US 3,668,757	Jun 1972	Rieden	29	157.3	
	CV	US 3,632,042	Jan 1972	Goulsh	239	130	
	CW	US 3,553, 428	Jan 1971	McGhee	219	494	
	CX	US 3,489,884	Jan 1970	Wasekeski	219	522	
	CY	US 3,427,675	Feb 1969	Tibbet			
	CZ	US 3,338,476	Aug 1967	Marcoux	222	146	
EXAMINER				DATE CONSIDERED			
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not considered. Include a copy of this form with next communication to applicant.							



FORM PTO-105 LIST OF REFERENCES CITED BY APPLICANT				ATTY. DOCKET NO. VWS-556-A		SERIAL NO. 10/608,508	
APPLICANT Karl-Heinz Kuebler				FILING DATE June 27, 2003		GROUP Unknown	
U. S. PATENT DOCUMENT							
EXAMINER INITIALS	PATENT NO.	ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE	
DA	US 3,332,045	Ju 19-67	Rodaway	335	81		
DB	US 3,292,866	Dec 1966	Benner	239	284		
DC	US 3,202,447	Aug 1965	Whaley	294	87.2		
DD	US 3,014,251	Dec 1961	Sstern	20	40.5		
DE	US 1,636,190	Jul 1927	Mattoney				
DF	US 653,629	Jul 1900	Schneider				
DG	US 6,236,019	May 2001	Piccione	219	203		
DH	US 6,148,258	Nov 2000	Boisvert	701	99		
DI	US 6,032,324	Mar 2000	Lansinger	15	250.04		
DJ	US 5,927,608	Jul 1999	Scorirobli	239	284.1		
DK	US 6,009,369	Dec 1999	Boisvert	701	99		
DL							
DM	US 5,247,148	Sep 1993	Mencher	219	10.55		
DN	US 5,180,896	Jan 1993	Gibby	219	10.55		
DO	US 4,927,060	May 1990	Snowball	222	146.5		
DP	US 4,894,520	Jan 1990	Moran	219	497		
DQ	US 4,858,576	Aug 1989	Jeffries	123	145		
DR	US 4,689,548	Aug 1987	Mechlenburg	323	243		
DS	US 4,430,994	Feb 1984	Clawson	128	203.27		
DT	US 4,417,116	Nov 1983	Black				
DU	US 4,358,652	Nov 1982	Kaarup	219	10.55		
DV	US 4,212,425	Jul 1980	Schlick	239	133		
DW	US 4,177,375	Dec 1979	Meixner	219	441		
DX	US 2,833,909	May 1958	Levey	219	39		
DY	US 5,598,502	Jun 1997	Takahashi	392	502		
DZ	US 1,523,156	Jul 1923	Adams				
EXAMINER				DATE CONSIDERED			
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not considered. Include a copy of this form with next communication to applicant.							



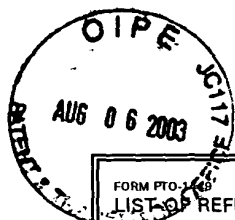
FORM PTO-448 LIST OF REFERENCES CITED BY APPLICANT				ATTY. DOCKET NO. VWS-556-A		SERIAL NO. 10/608,508	
				APPLICANT Karl-Heinz Kuebler			
				FILING DATE June 27, 2003		GROUP Unknown	
U. S. PATENT DOCUMENT							
EXAMINER INITIALS		PATENT NO.	ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE
	EA	941 215	Nov 1909	Wade			
	EB	4 508 957	Apr 1985	Rocchitelli			
	EC	6 330 395	Dec 2001	Wu			
	ED	5 724 478	Mar 1998	Thweatt			
	EE						
	EF						
	EG						
	EH						
	EI						
	EJ						
	EK						
	EL						
	EM						
	EN						
	EO						
	EP						
	EQ						
	ER						
	ES						
	ET						
	EU						
	EV						
	EW						
	EX						
	EY						
	EZ						
EXAMINER				DATE CONSIDERED			
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not considered. Include a copy of this form with next communication to applicant.							



FORM PTO-1449 LIST OF REFERENCES CITED BY APPLICANT				ATTY. DOCKET NO. VWS-556-A		SERIAL NO. 10/608,508	
				APPLICANT Karl-Heinz Kuebler			
				FILING DATE June 27, 2003		GROUP Unknown	
FOREIGN PATENT OR PUBLISHED PATENT APPLICATION							
		DOCUMENT NO.	PUBLICATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUBCLASS	TRANSLATION
	FA	2002/0137455	Sep 2002	US			
	FB	WO 00/27540	May 2000	WIPO			
	FC	WO 00/04754	Feb 2000	WIPO			
	FD	WO 98/58826	Dec 1998	WIPO			
	FF	WO 02/92237	Nov 2002	WIPO			
	FG	2 350 555	Dec 2000	UK			
	FH	2 331 231	May 1999	UK			
	FI	2 310 795	Sep 1997	UK			
	FJ	2 308 971	Jul 1997	UK			
	FK	2 290 461	Jan 1996	UK			
	FL	2 271 712	Apr 1994	UK			
	FM	2 271 276	Apr 1994	UK			
	FN	2 260 399	Apr 1993	UK			
	FO	2 225 096	May 1990	UK			
	FP	2 121 681	Jan 1984	UK			
	FQ	2 044 601	Oct 1980	UK			
	FR	1 451 666	Oct 1974	GB			
	FS	1 318 498	May 1973	GB			
	FT	2,176,539	Nov 1997	CA			
	FU	2,133,592	Apr 1995	CA			
	FV	1,216,713	Jan 1987	CA			
	FW	19820220	Nov 1999	DE			
	FX	39 07 968	Sep 1990	DE			
	FY	35 26 430	May 1987	DE			
	FZ	23 53 738	Sep 1980	DE			
EXAMINER				DATE CONSIDERED			
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not considered. Include a copy of this form with next communication to applicant.							



FORM PTO-1449 LIST OF REFERENCES CITED BY APPLICANT				ATTY. DOCKET NO. VWS-556-A		SERIAL NO. 10/608,508	
				APPLICANT Karl-Heinz Kuebler			
				FILING DATE June 27, 2003		GROUP Unknown	
FOREIGN PATENT OR PUBLISHED PATENT APPLICATION							
		DOCUMENT NO.	PUBLICATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUBCLASS	TRANSLATION
	GA	2 677 939	Dec 1992	FR			
	GB	2 609 437	Jul 1988	FR			
	GC	2 605 273	Apr 1988	FR			
	GD	2 585 311	Jan 1987	FR			
	GE	JP 8312824	Nov 1996	JP			
	GF	4-38248	Feb 1992	JP			
	GG	2234866	Sep 1990	JP			
	GH	2053656	Feb 1990	JP			
	GI	63-93652	Apr 1988	JP			
	GJ	WO 99/56993	Nov 1999	WIPO			
	GK	WO 98/49036	Nov 1998	WIPO			
	GL	2 707 230	Jul 1993	FR			
	GM	1 006 030	Nov 1999	EP			
	GN	3 507 900	Nov 1986	DE			
	GO	370,687	May 1931	UK			
	GP	854 403	Nov 1952	DE			
	GQ	3430653	Jun 1993	DE			
	GR	19935134	Jan 2001	DE			
	GS	1162118	Dec 2001	EP			
	GT	WO 9746431	Dec 1997	WIPO			
	GU	1 006 029	Nov 1999	EP			
	GV						
	GW	1 213 197	Dec 2000	EP			
	GX	2002/0040895	Apr 2002	US			
	GY	3430 653	Aug 1984	DE			
	GZ						
EXAMINER				DATE CONSIDERED			
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not considered. Include a copy of this form with next communication to applicant.							



FORM PTO-249 LIST OF REFERENCES CITED BY APPLICANT				ATTY. DOCKET NO. VWS-556-A		SERIAL NO. 10/608,508	
				APPLICANT Karl-Heinz Kuebler			
				FILING DATE June 27, 2003		GROUP Unknown	
FOREIGN PATENT OR PUBLISHED PATENT APPLICATION							
EXAMINER INITIALS		PATENT NO.	ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE
	HA	1959978	Nov 1969	DE			
	HB	245641	Apr 1987	EP			
	HC	2305233	Apr 1997	UK			
	HD	2320086	May 1997	GB			
	HE	342516	May 1998	EP			
	HF	688432	Dec 1978	SW			
	HG	2354688	Mar 2001	UK			
	HH	1152170	May 1969	GB			
	HI	2804804	Aug 1979	DE			
	HJ	19829681	Feb 2000	DE			
	HK	2454920	May 1976	DE			
	HL	1151214	May 1969	GB			
	HM						
	HN						
	HO						
	HP						
	HQ						
	HR						
	HS						
	HT						
	HU						
	HV						
	HW						
	HX						
	HY						
	HZ						
EXAMINER				DATE CONSIDERED			
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not considered. Include a copy of this form with next communication to applicant.							